

The Financial Crises of the 21st Century

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Macroeconomic Imbalances and the Public Sector Crisis

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Plan of the Presentation

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1. The Origins of the Crisis

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The road from the start of EMU to the current government debt crisis is a sequence of four processes, each of them a consequence of the preceding one:

1. Widening current-account imbalances
2. Accumulation of liabilities of deficit countries vis-a-vis surplus countries
3. Socialization of losses incurred by an overleveraged financial sector as repayment of debt by (private and public) borrowers becomes increasingly doubtful.
4. Finally, government solvency becomes an issue with the increasing burden imposed on government budgets by
 - rescue operations
 - crisis-related expenditure
 - increasing risk premia on government debt

Widening Current-Account Imbalances

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The increasing surplus of the North and the increasing deficit of the South are mirror images of each other, the overall current account of the eurozone roughly maintaining balance ([Figure 1](#)).

Current-account imbalances reflect a net flow of both goods and capital:

- The trade surplus of the North is matched by a trade deficit of the South. The correspondence is not bilateral, however, but a result of more complicated multilateral imbalances involving third countries (Darvas 2012).
- The savings surplus of the North ($S > I$) has channeled a large amount of capital to the South, funding the savings deficit ($S < I$) there.

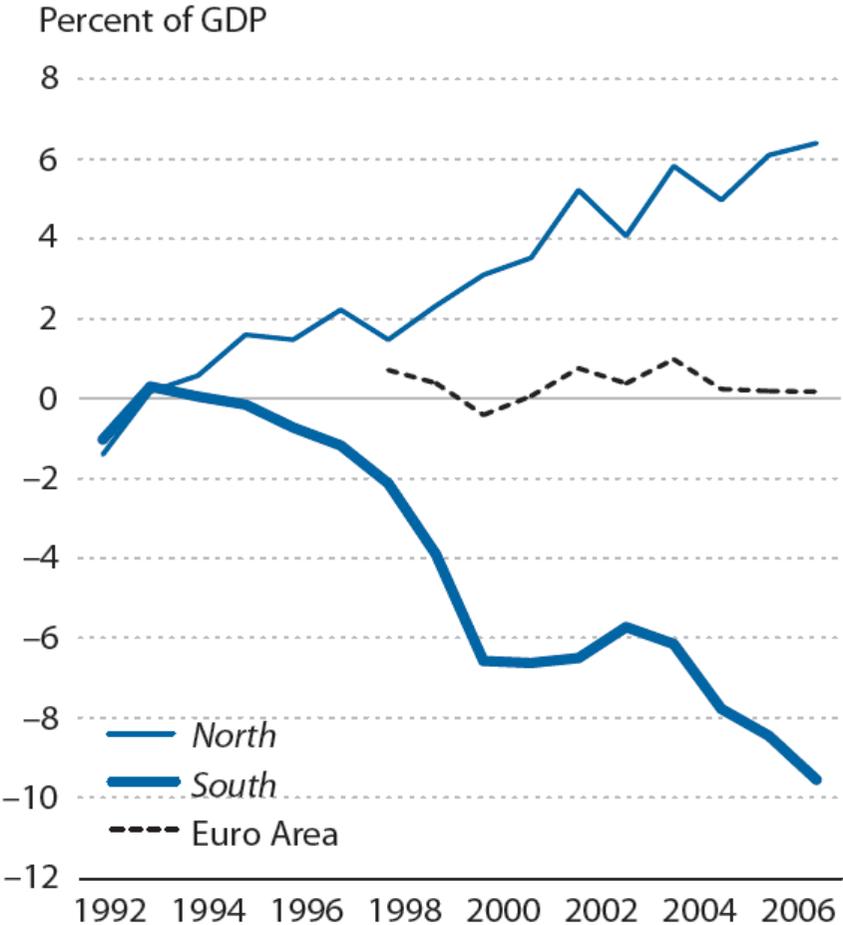
Figure 1: A Growing Current-Account Imbalance in the Eurozone

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Current Account (1992-2007)



North: Austria, Finland, Germany, Netherlands

South: Greece, Ireland, Portugal, Spain

Source: Holinski/Kool/Muysken (2012)

Figure 2: The Structure of Savings-Investment Imbalances

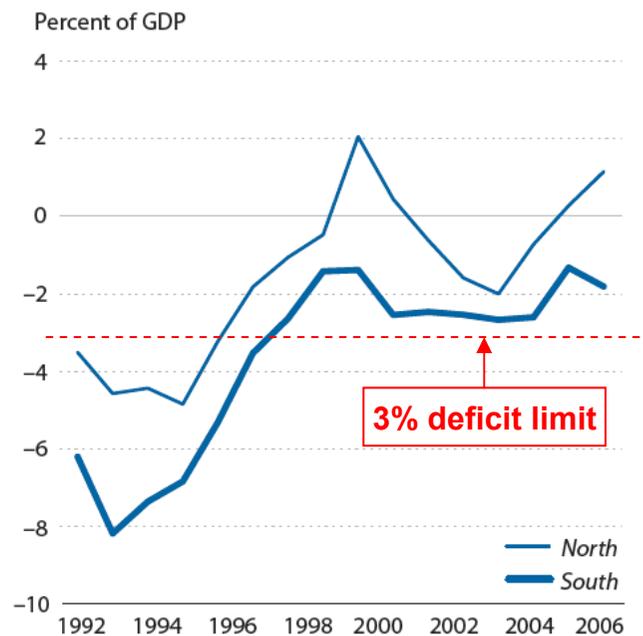
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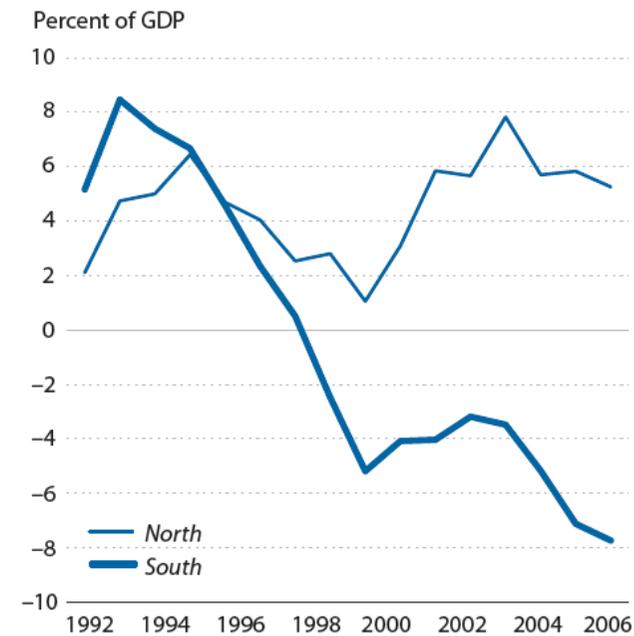
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The divergence in net saving between North and South is almost entirely due to *private-sector* spending behavior:

Net Public Savings (1992-2007)



Net Private Savings (1992-2007)



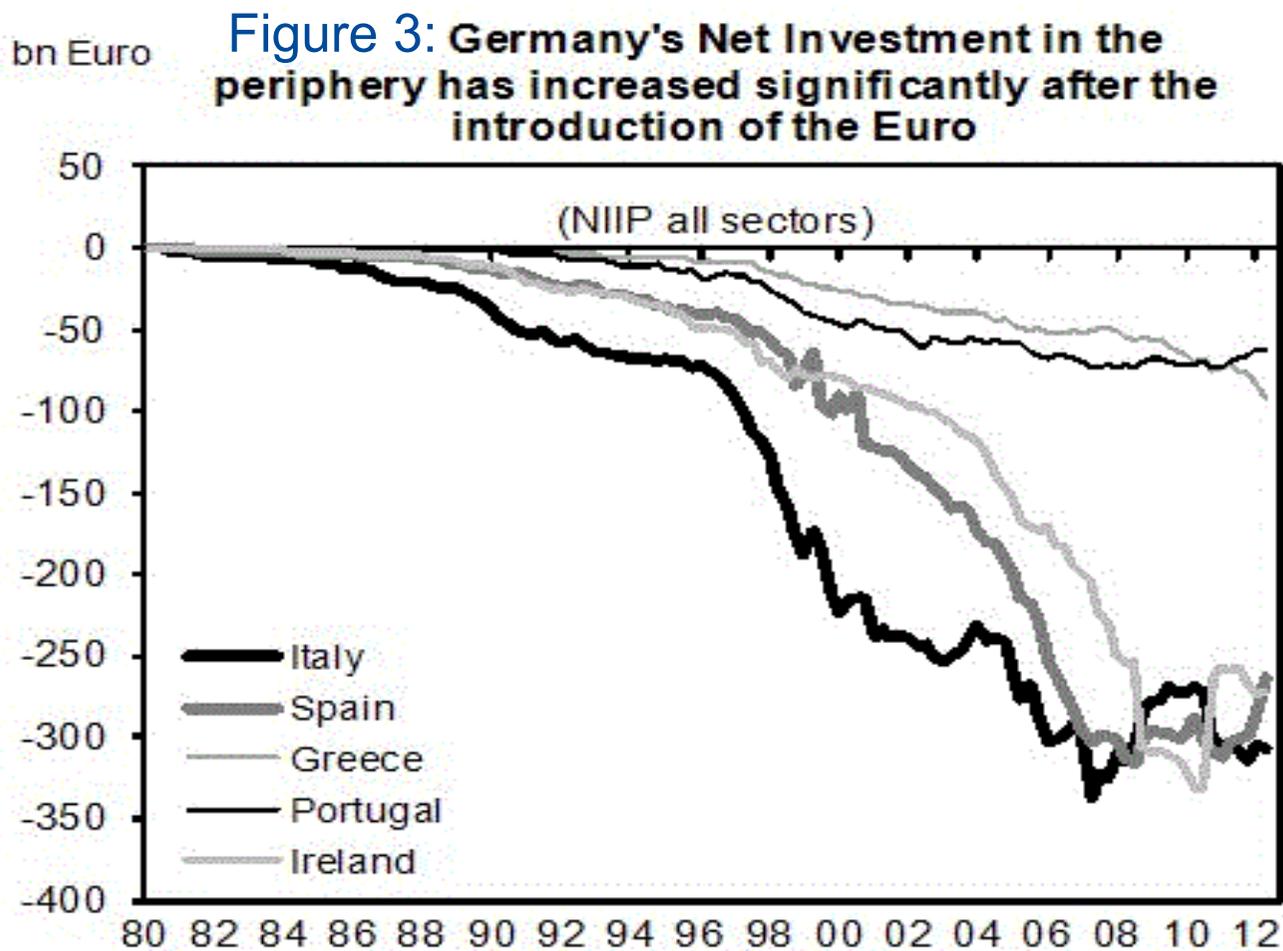
Source: Holinski/Kool/Muysken 2012

The Capital Flows Added up to a Huge Pile of Claims of the North on the South

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Source: Bundesbank and Goldman Sachs Research

Source: Davies (2012)

How a Largely Private-Sector Spending Boom Turned Into a Public Sector Crisis

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The key factor: the fragility of the financial sector

When the accumulation of dubious liabilities begins to cast doubt on the viability of the financial sector, private debt turns into public debt (Ireland, Spain) as the government feels compelled to rescue the financial sector.

Implications:

1. Hidden liabilities: explicit government debt is an unreliable indicator of government creditworthiness.
 - Sovereign spreads more closely related to cumulative current-account balances than to government debt-GDP ratios (Gros 2011)
2. Potential for vicious circle of mutually reinforcing loss of confidence in government and financial-sector solvency

Summing up: The emergence of current-account imbalances that were largely created by private-sector behavior led the eurozone right into a major public-sector debt crisis.

2. Current-Account Imbalances: A Cause for Concern?

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In view of the outcome described above, obviously yes.

But views about causes and effects of current-account imbalances differ sharply to the present day:

Flassbeck (2012), Flassbeck/Spiecker (2009), Cesaratto/Stirati (2011):

Intra-EMU imbalances a result of a German beggar-thy neighbor strategy
Wage restraint → Competitiveness↑ → Export Boom and Export Surplus

Conclusion: need for harmonized wage policies to keep wage growth aligned with ECB inflation target and to prevent relative-price misalignments

Sinn (2010), Sinn/Koll (2000):

Intra-EMU imbalances a result of the attractiveness of the periphery as a destination for cross-border capital flows in the wake monetary unification.

Thus, EMU has acted as a capital drain on Germany, directing German savings south, boosting the periphery, and relegating Germany to the bottom of the growth league

In turn, the re-emergence of risk premia after 2007 has depressed the periphery and boosted domestic investment in Germany

Needed: A Coherent Account of the Root Causes of the Current-Account Imbalances

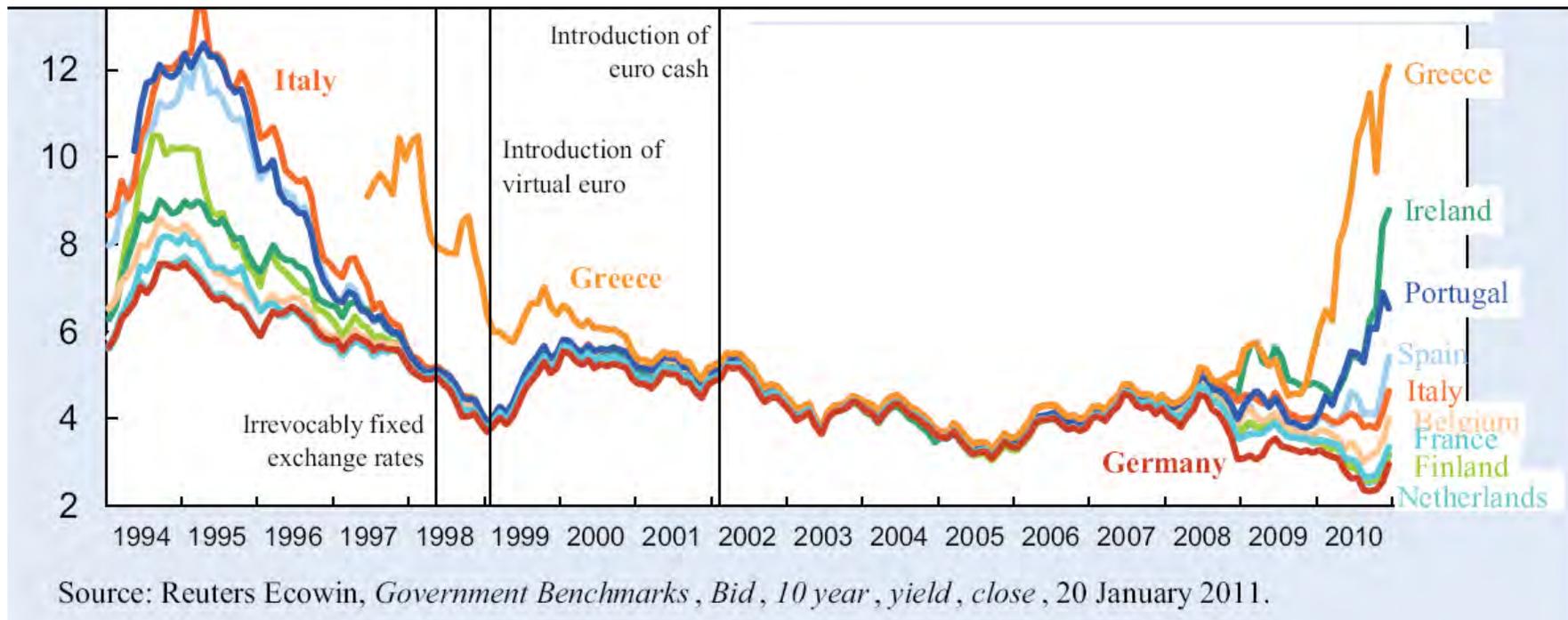
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The key observation: The prospect of monetary union eliminated previously massive interest-rate differentials in Europe. Within a few years, the former high-interest rate countries enjoyed German-style low interest rates.

Figure 4: Eurozone Interest Rates, 1994-2010



Source: Reuters Ecwin, *Government Benchmarks, Bid, 10 year, yield, close*, 20 January 2011.

Source: EEAG Report 2011

Inflation Differentials as a Destabilizing Force (Walters Critique)

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- Low interest rates sparked a spending boom in former high-interest-rate countries of the South.
- Consequence: Wages and prices increased much more rapidly than in the less dynamic North ([Figure 5](#)).
- Further consequence: Nominally equalized interest rates were lower in the booming deficit economies in real terms than they were in the surplus countries.
- Result: Real interest-rate differentials exacerbated the initial divergence of demand growth between North and South ([Figure 6](#))
- The warnings of Alan Walters (1990) against the pitfalls of a common monetary policy in a macroeconomically heterogeneous area were fully borne out by events.
- When the spending boom began to fade in the deficit countries, the financial crisis and the subsequent return of the interest-rate spreads reinforced the downturn, thereby exacerbating a long-term pattern of „rotating slumps“ (Blanchard 2007, Landmann 2011,2012): [Figure 7](#)

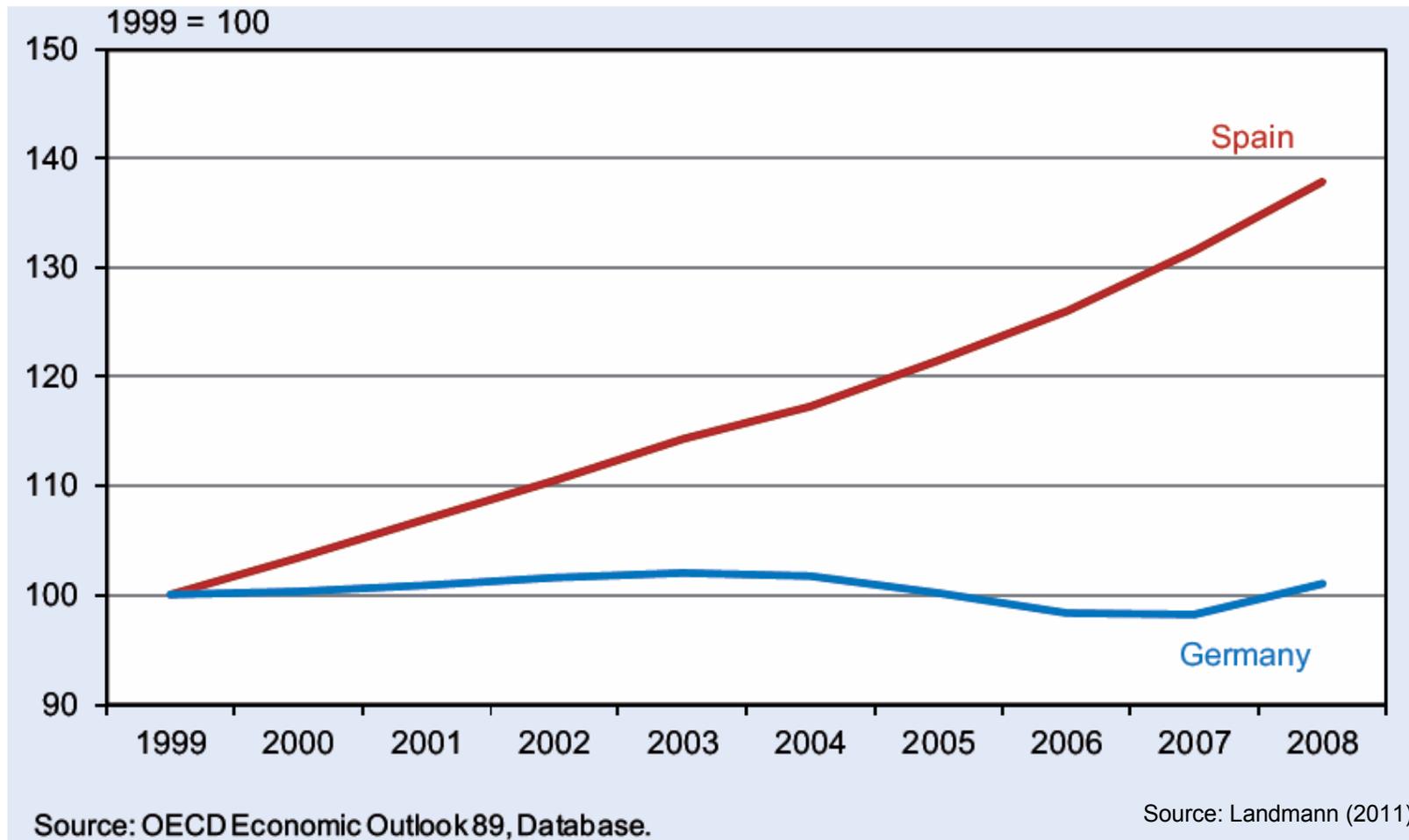
Divergence of Unit Labor Costs: Germany and Spain

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Figure 5

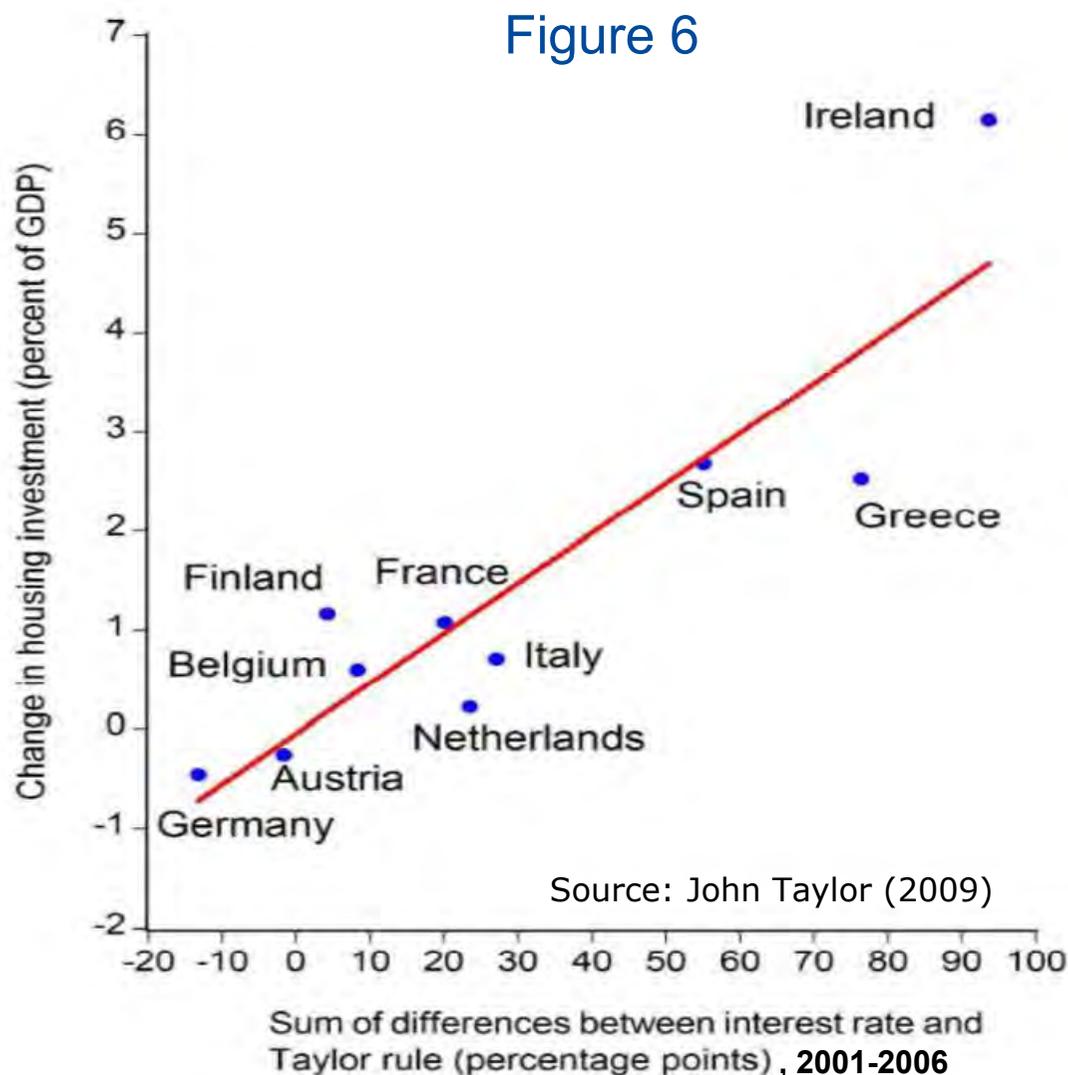


Equalized Interest Rates, 2001-2006: One Size Does Not Fit All

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The extent to which interest rates fell short of what a Taylor rule would have required is robustly correlated with the change in housing investment.

This finding

- vindicates the Walters Critique;
- demonstrates that the single interest rate prevailing in 2001-2006 was a clear case of a „one-size-does-not-fit-all“ monetary policy.

Variations in Risk Premia and Policy Responses Have Exacerbated a Longer-Term Pattern of „Rotating Slumps“

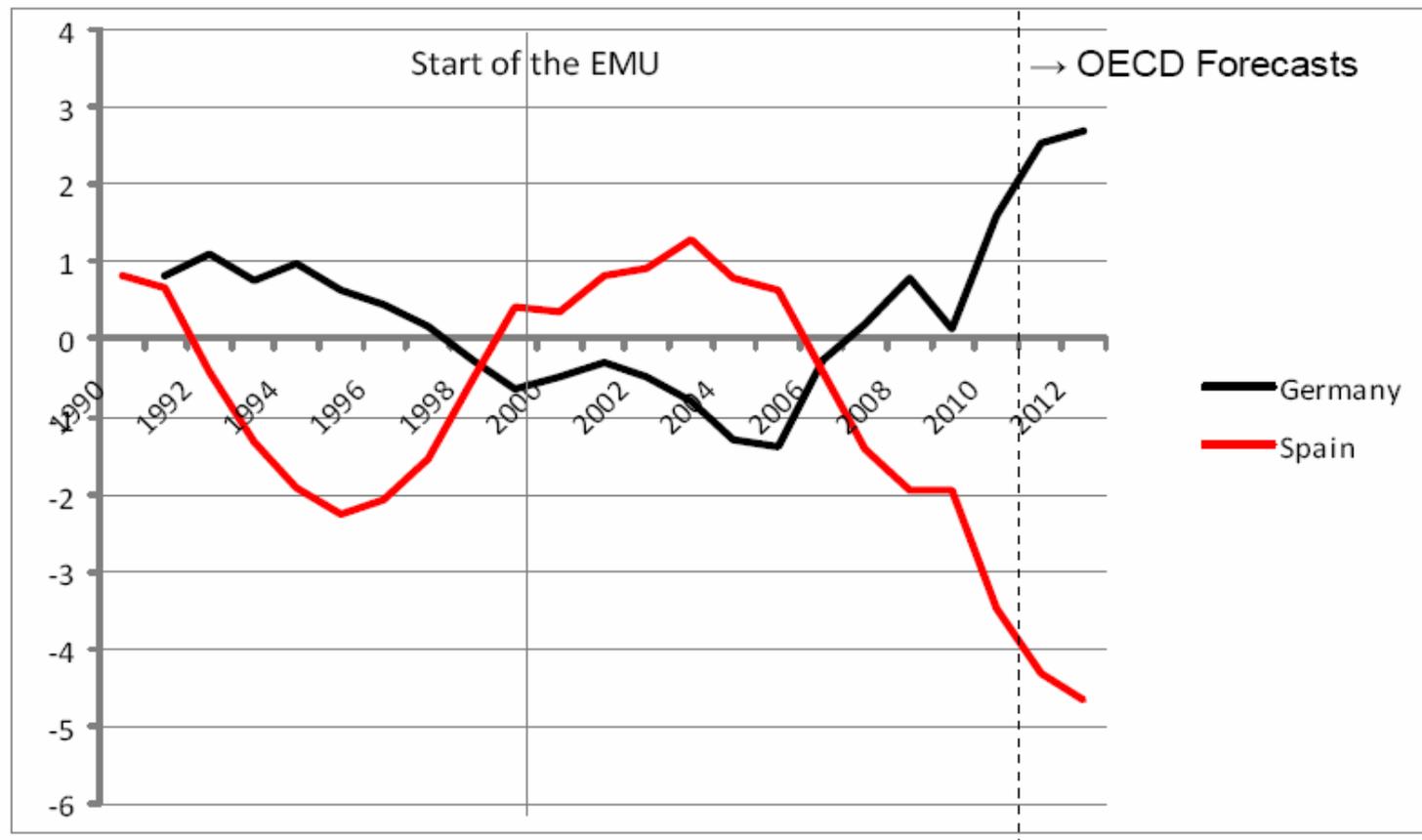
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Figure 7

Relative cyclical positions of Germany and Spain, 1991-2012



Output gaps, relative to eurozone average

Source: Landmann (2011)

Large Net Capital Flows: “The End of Feldstein-Horioka”

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Blanchard/Giavazzi (BPEA 2:2002) on Greek and Portuguese current-account deficits:

“... exactly what theory suggests can and should happen when countries become more closely linked in goods and financial markets... We do not typically think of this as a reason for macroeconomic policy intervention.”

This is the ‘*consenting adults*’ view of the current account (Obstfeld 2012): If rational, utility-maximizing individuals make voluntary choices about saving, investment, borrowing and lending that imply current-account imbalances, it is unclear how government could improve on that outcome.

In an undistorted first-best world, international capital flows (“global imbalances”) are a vehicle for an efficient allocation of capital, yielding potentially large welfare gains (Figure 8).

The Textbook Case For Capital Mobility

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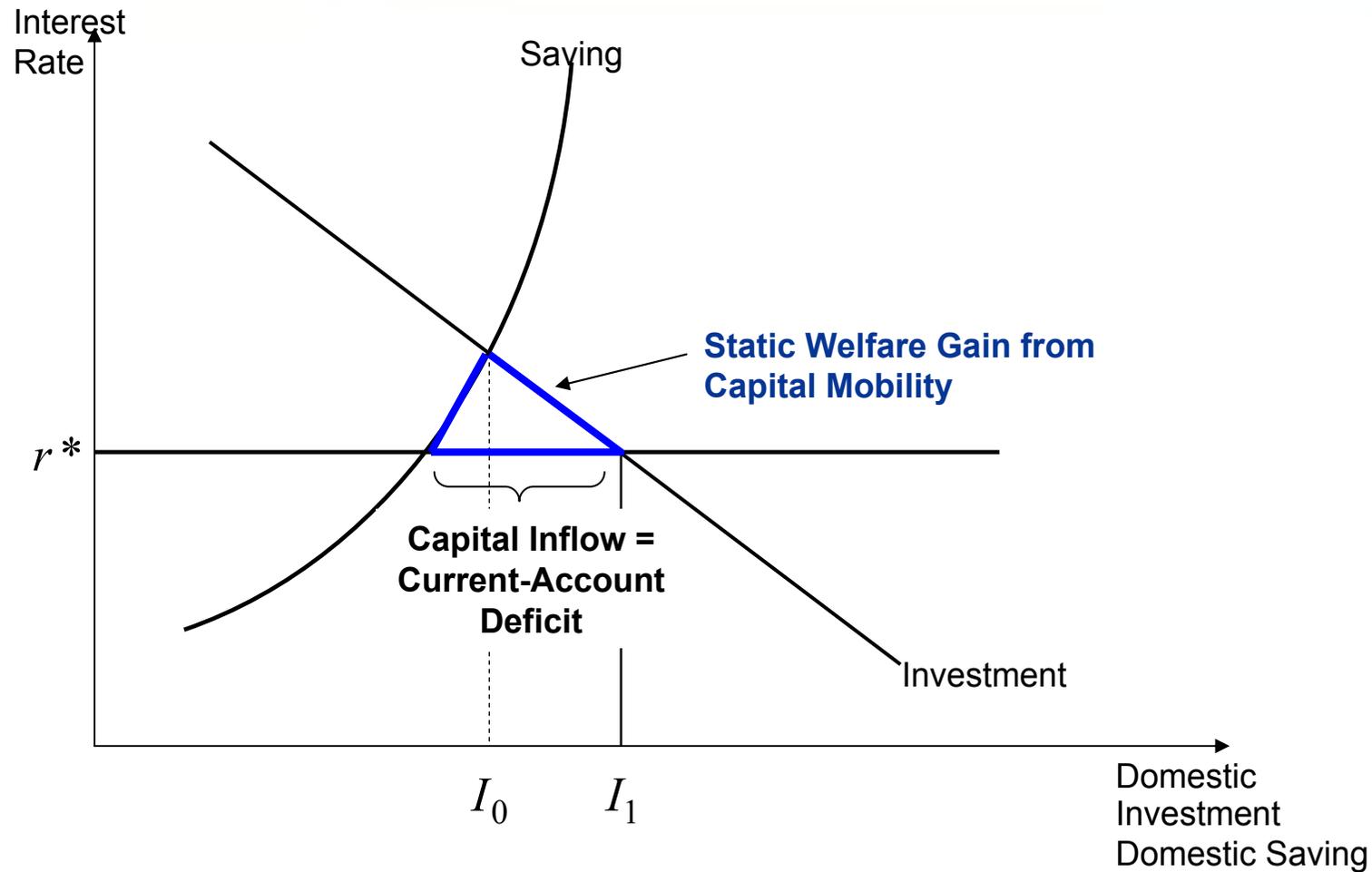


Figure 8

Potential Risks of Current-Account Imbalances

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Blanchard and Giavazzi (BPEA 2:2002) point to possible concerns about the growing current-account deficits of Greece and Portugal. They list three reasons why the ‘consenting adults’ view of the current account might be too sanguine. All three of them turned out to be major trouble spots in due course:

- CA imbalances as a symptom of domestic problems in the making (e.g. unsustainable credit boom).
- CA imbalances create vulnerability to abrupt international portfolio shifts.
- The build-up and eventual unwinding of CA imbalances require relative price shifts that may cause frictions in the presence of nominal rigidities.

Nevertheless, at the time (2001), they concluded:

“Benign neglect .. a reasonable course of action” (ibid., p. 186)

Capital Flows and Domestic Distortions

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The welfare gains demonstrated in Figure 8 above obtain in a competitive, undistorted first-best world.

It is easily shown, however, that if an economy suffers from domestic capital-market imperfections, the welfare costs of such imperfections are easily made worse by international capital mobility.

Figure 9 makes the point by assuming that some unspecified distortion (an implicit subsidy, overoptimism) shifts the investment demand schedule outwards to the right. This will result in excessive borrowing and investment.

1. If the economy is closed, the extent of overinvestment and overborrowing is limited by the domestic supply of savings. Investment rises from I_0 to I'_0 , the welfare loss is measured by triangle 1 in **Figure 9**. Its size depends on the elasticity of the supply of savings.
2. If the economy is financially open, in contrast, investment rises from I_1 to I'_1 at the unchanged exogenous interest rate r^* . Compared to the case of the closed economy, the welfare loss is now given by the area of the much larger triangle 2. In short: Whatever causes overborrowing in the first place is made worse by highly mobile capital.

Overborrowing Syndrome Exacerbated by Capital Inflows

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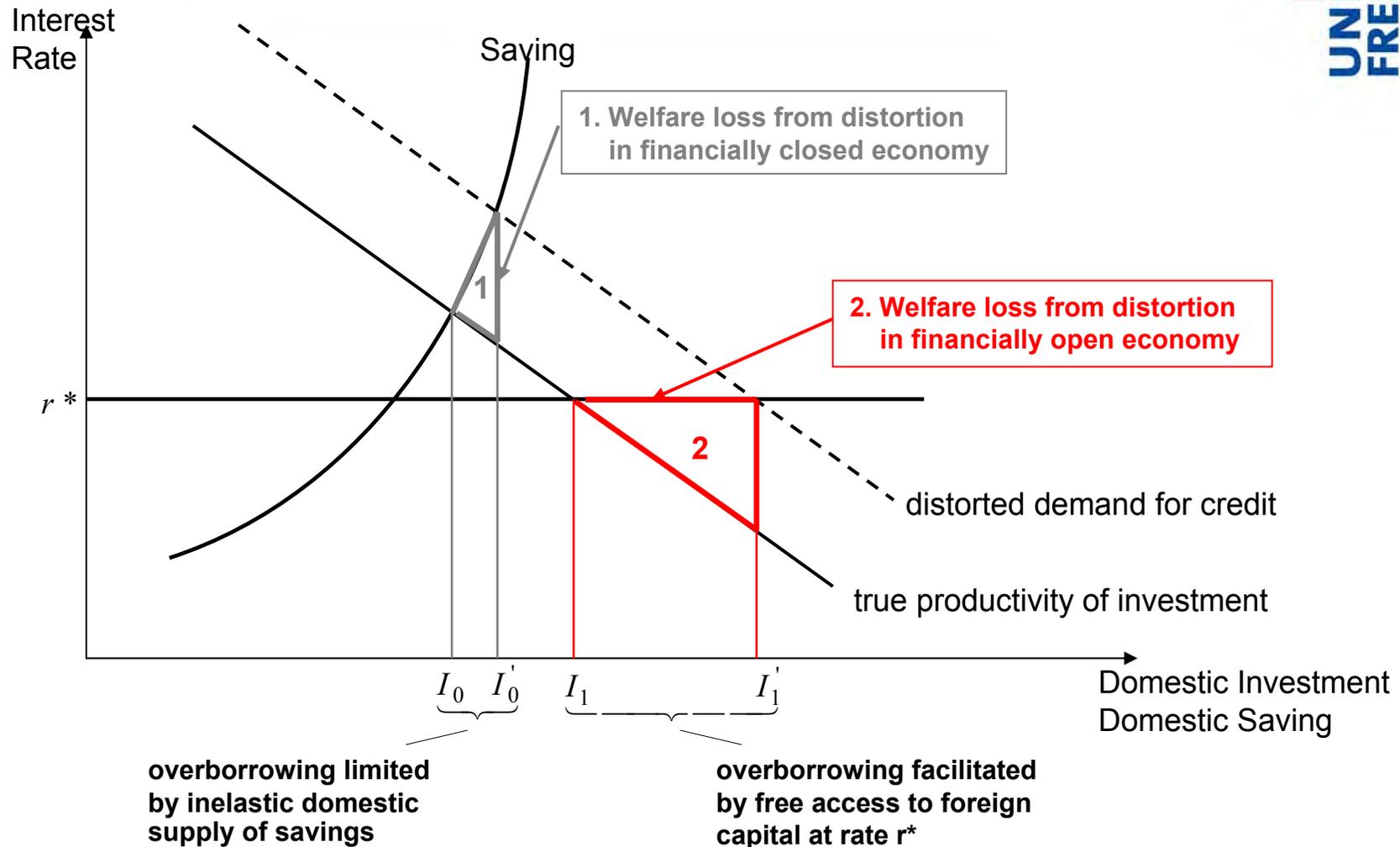


Figure 9

3. *Links between Financial Turmoil and Capital Mobility*

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Financial crises, banking crises and sovereign debt crises have a long history (Reinhart/Rogoff 2009).

By their very nature, they are regularly preceded by credit booms that facilitate excessive borrowing.

Historically such credit growth has more often than not been associated with a high international mobility of capital. As the freedom of capital to move across borders has varied over time, so has the incidence of financial crises. [Figure 10](#) (from Reinhart/Rogoff 2009) displays an indicator of capital mobility against a measure of the frequency of banking crises.

At the same time, Taylor (2012) is right to point out that there is nothing inevitable about the link between financial crises and external imbalances. Capital flows can take non-bank forms and a low frequency of banking crises, such as the 1940-1970 period, can as well be due to tight domestic financial regulation as to controls on international capital flows.

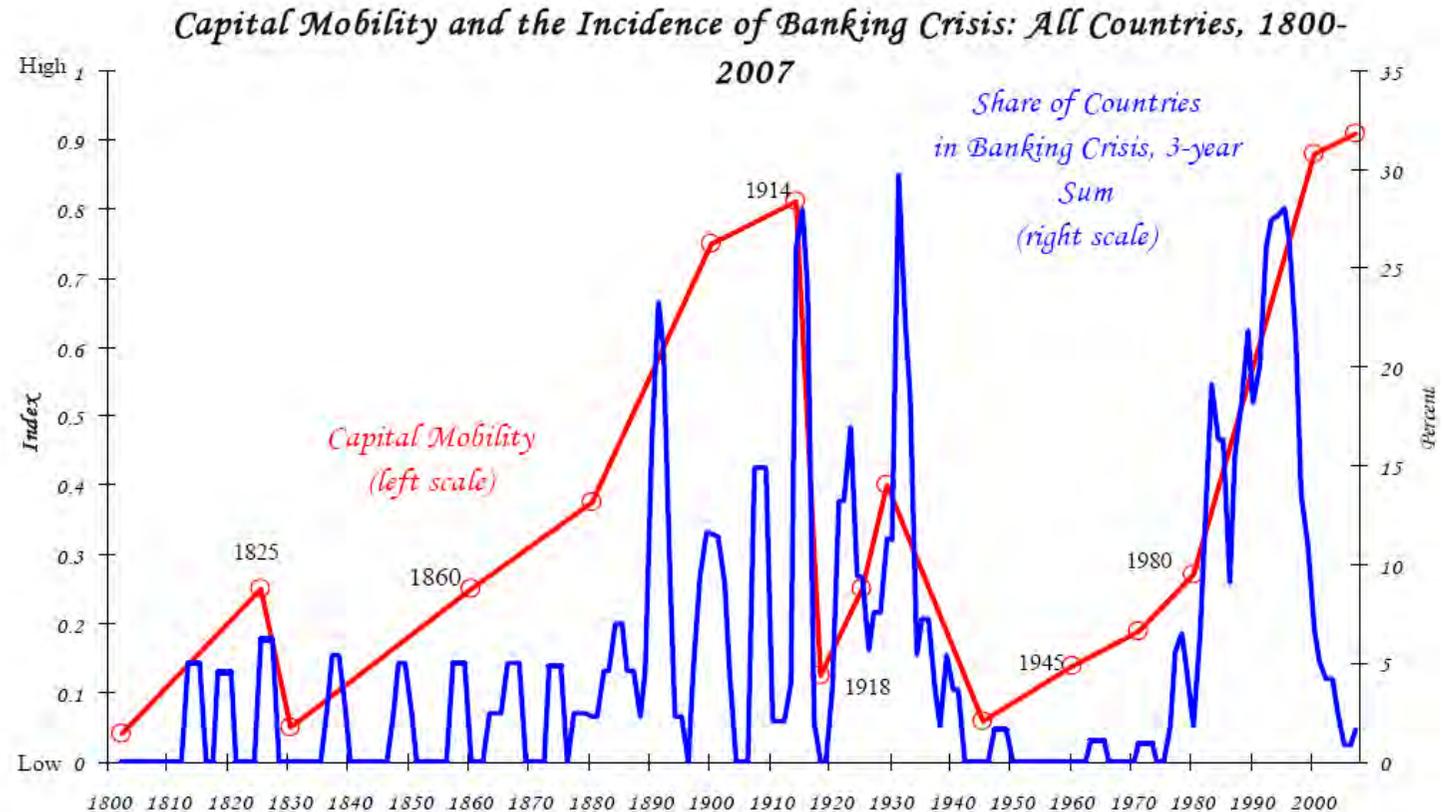
Banking Crises Occur More Frequently When Capital Is Highly Mobile

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Figure 10



Sources: Bordo et al. (2001), Caprio et al. (2005), Kaminsky and Reinhart (1999), Obstfeld and Taylor (2004), and these authors.

Notes: As with external debt crises, sample size includes all countries, out of a total of sixty six listed in Table 1 that were independent states in the given year. On the right scale, we updated our favorite index of capital mobility, admittedly arbitrary, but a concise summary of complicated forces. The smooth red line shows the judgmental index of the extent of capital mobility given by Obstfeld and Taylor (2003), backcast from 1800 to 1859 using their same design principle.

Source:
Reinhart/Rogoff (2008)



1. *USA 2008: financial crisis after a burst housing bubble*
 - Monetary policy too expansionary? (Taylor 2009)
 - Global savings glut? (Bernanke 2005, Obstfeld/Rogoff 2009)
 - The Fed merely accommodated a lower equilibrium real interest rate which was largely due to a growing savings surplus in the rest of the world (Gerlach/Moretti 2011)
2. *The Asian Crisis 1997/98*
 - Investors complacent about exchange rate risk
 - Passing on exchange rate risk to borrowers transformed exchange rate risk into solvency risk
 - Overborrowing syndrome (McKinnon/Pill 1996, Corsetti/Pesenti/Roubini 1999) or financial panic (Chang/Velasco 1998)? Vastly differing policy implications, but probably both at work.
3. *The Latin American Debt Crisis (1980s)*
 - Origin: Recycling of „Oil Dollars“
 - Banks, having had their fingers burnt by rising interest rates in the inflationary 1970s, used floating rate loans as a „hedge“ – only to discover that they acquired default risk instead.

4. *Unwinding the Imbalances*

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Having seen how the current public-sector debt crisis in the eurozone has evolved and how it can be interpreted as yet another example in a long historical tradition of financial crises unleashed by the coincidence of large international capital flows with weak domestic financial systems, we now turn to the challenges posed by the task of unwinding the European current-account imbalances.

As it happens, intra-eurozone current-account imbalances have been reduced already substantially since the onset of the euro crisis. Some observers see this as a major success of the strategy adopted by Europe's policy-makers for dealing with the crisis (e.g. Sachverständigenrat 2012). However, triumphalism in this regard would be premature. The most important factor behind the narrowing of the current-account imbalances is the collapse of domestic demand and economic activity in the highly indebted South.

Theory and history tell us that major swings in the net external resource flow of a country, if it is to be sustained beyond a very short run, must go along with a corresponding adjustment of its terms of trade. Such an adjustment occurred in the eurozone as South-North inflation differentials, discussed above, accommodated the widening current-account imbalances until 2008.

Asymmetric Price Adjustment

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The mechanism which produced the inflation differentials of the 1999-2008 period and the resulting changes in relative prices is straightforward: The same domestic demand pressures that pushed up import demand in the South, thereby creating the current-account deficits, also pushed up domestic price levels in accordance to simple Phillips-curve logic.

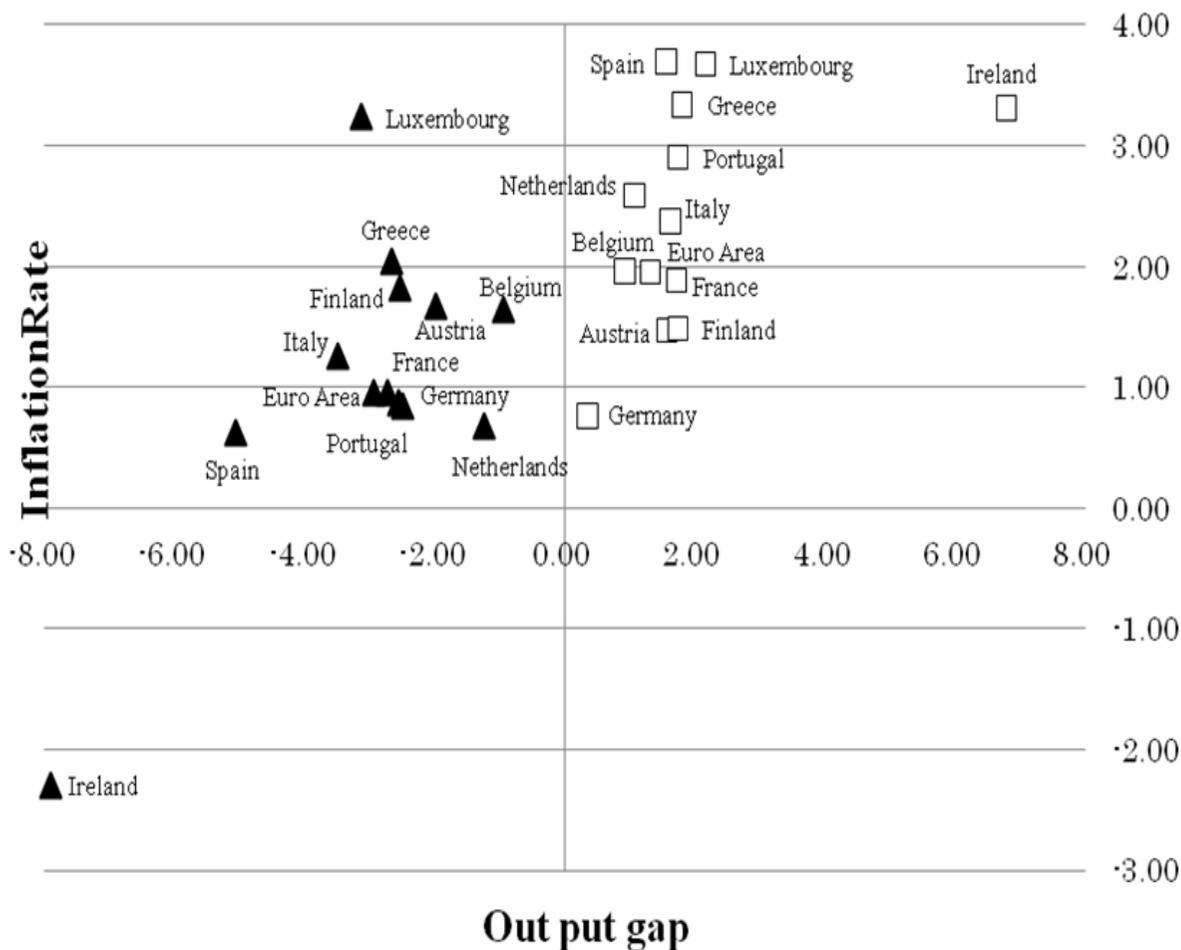
Figure 11 plots the inflation rates of the eurozone against output gaps (which serve as an indicator of cyclical conditions). The white squares refer to averages in the 1999-2008 period whereas the black triangles represent averages for the crisis period 2009-2011 during which output gaps were generally negative. A distinct Phillips-curve pattern emerges as inflation rates are closely related to output gaps. Ireland is an extreme outlier in both periods.

Conspicuously, Ireland is the only eurozone member currently capable of engineering a perceivable downward adjustment of its price level. Excluding Ireland (and the city-state of Luxemburg) from the sample, it becomes apparent that the upward flexibility of inflation rates to excess demand in 1999-2008 was much stronger than the downward flexibility in the state of depressed demand during 2009-2011 (**Figure 12**).

Output Gaps and Inflation Rates (Before and After 2009)

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Figure 11



□: Pre 2009
(Average from 1999 to 2008)

▲: Post 2009
(Average from 2009 to 2011)

Output gap = "Deviations of actual GDP from potential GDP as a per cent of potential GDP"

Inflation Rate = "GDP deflator, Percentage change from previous year"

Annual data 1999-2011

Data Source:

OECD Economic Outlook,
Volume 2012, Issue 1, No. 91

Compiled from joint work with
Yasuhiro Doi

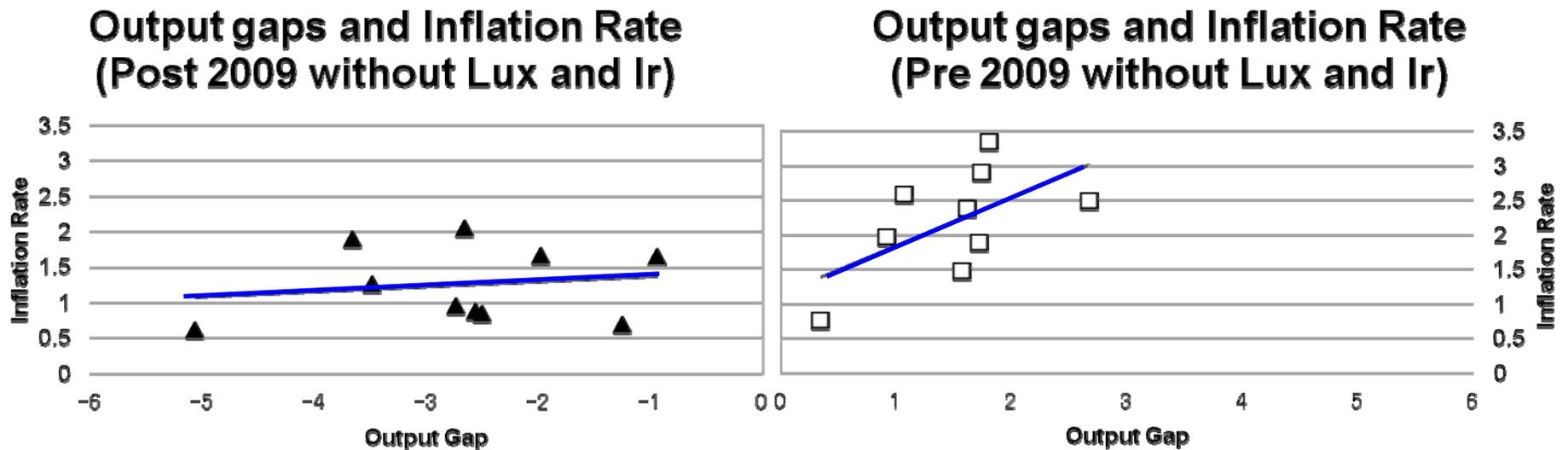
Asymmetric Response of Inflation Rates to Boom and Bust

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Figure 12



□: Pre 2009 (Average from 1999 to 2008)

▲: Post 2009 (Average from 2009 to 2011)

Data Source:

OECD Economic Outlook, Volume 2012 Issue 1 - No. 91 - © OECD 2012

- Output gap="Deviations of actual GDP from potential GDP as a per cent of potential GDP"

- Inflation Rate="GDP deflator, Percentage change from previous year"

Annual data 1999-2011

The Dispersion of Wage Growth in Boom and Bust

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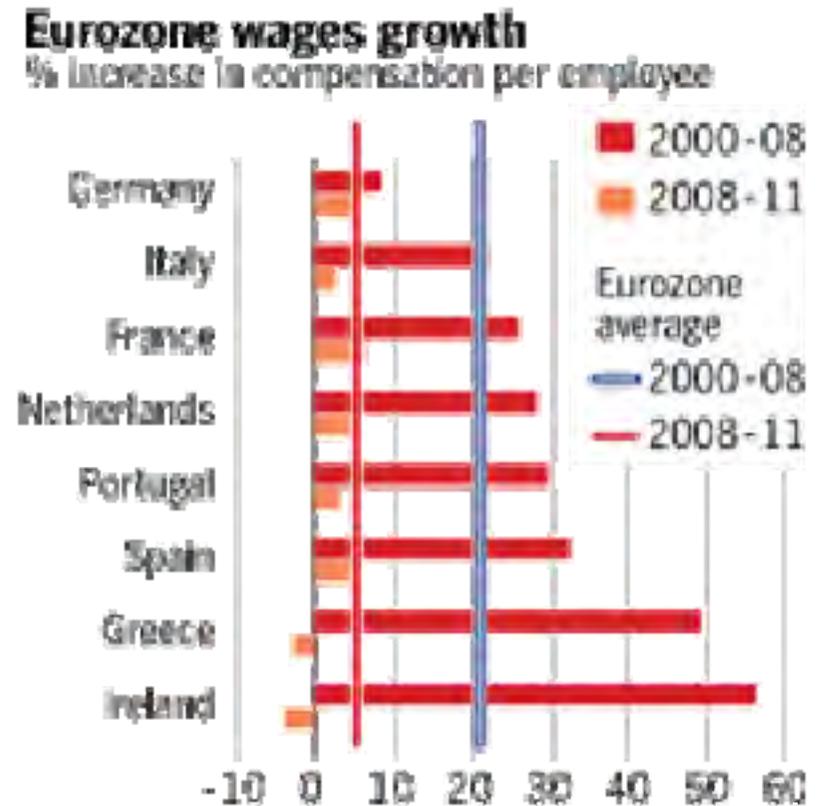


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What these observations suggest is that the relative price shift generated by the inflationary booms of the South up to 2008 proves very hard to reverse under conditions of recession and deflation that persist since 2009.

Figure 13 makes the same point by reference to the dispersion of rates of change of wages before and after 2008. Whereas wage growth in the South exceeded German wage growth by a very large amount in 2000-2008, the rates of change of wages cluster narrowly around a much lower mean in the recession years thereafter.

Figure 13



Source: Wolf (2012)

An Interpretation in Terms of the Swan Diagram

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Wolf (2012) is right to compare the current situation to the experience of the United Kingdom in the 1920s when Winston Churchill, clinging to the Gold Standard by all means, forced the economy to correct a distorted real exchange rate by way of deflation. No need to remind anyone of how that experiment ended.

And today? The options the eurozone has to resolve its current impasse are similarly limited. The macroeconomics of the situation can conveniently be discussed with a little help from an old workhorse of International Macroeconomics, the Swan Diagram ([Figure 14](#)).

In this diagram, domestic demand and competitiveness (as measured e.g. by the real exchange rate) can be combined to yield either internal balance (a zero output gap) or external balance (a balanced current account). The road travelled by the South in the 1999-2012 period can be represented in a stylized way as the U-turn shape depicted by the path A-B. The initial boom carried the South into the region of current-account deficit and inflationary pressure, the latter gradually eroding competitiveness. With the crisis, the South moved deep into the deflationary pressure region, clawing back only a small part of the lost competitiveness, however.

The austerity imposed on the South has exacerbated the underemployment problem, with disappointing effects on the debt burden. Political unrest is on the rise. The case for a more growth-friendly strategy is being made more frequently and more forcefully. But as the Swan diagram in [Figure 14](#) demonstrates, there is no easy way out of the crisis :

Austerity or Growth?

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1. **More Austerity** would continue the current path and extend it beyond point B. This would mean continued massive underemployment, continued reduction of current-account deficits, and continued downward pressure on the internal cost and price level.
2. **A more expansionary Growth agenda** would push the South back towards internal balance, increase its current-account deficit and relax the downward pressure on wages and prices.

The first scenario would require the population in the South to endure a very long time of continued depression. The second one would require creditors to fund large current-account deficits for the foreseeable future.

If either the patience of the South with continued austerity or the patience of the North with continued official resource transfers runs out, something has to give, and that could well be eurozone membership of some of the Southern countries.

Needed: Substantial Improvement of Competitiveness

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In terms of the Swan diagram, what would obviously be welcome, given the current situation, is not so much a lateral movement towards either one of the equilibrium schedules, but rather a vertical movement up towards the point of intersection of the two schedules (as indicated by the red arrow pointing towards overall equilibrium. In the absence of nominal exchange rate depreciation, an improvement of Southern competitiveness can happen in only three ways:

1. Deflation in the South
2. Inflation in the North
3. Improvement of the non-price competitiveness of the South through structural reforms

Options 1 and 3 work only very slowly. Option 2 is fiercely resisted by the North. It could be that the current strategy of playing for time will work if the required patience can be mustered by policy-makers both in the South and in the North. However, patience may well run out because it simply loses political support. In that case, the North should consider shifting its assistance to the South from funding a long, uncertain adjustment process towards enabling and facilitating a fresh start with a (perhaps temporary) exit from the eurozone of some countries.

Also, there is no way around substantial debt relief for the most indebted countries. Whether they regain competitiveness through continued deflation or through depreciation after an exit: Their debt-servicing capacity is ruined either way.

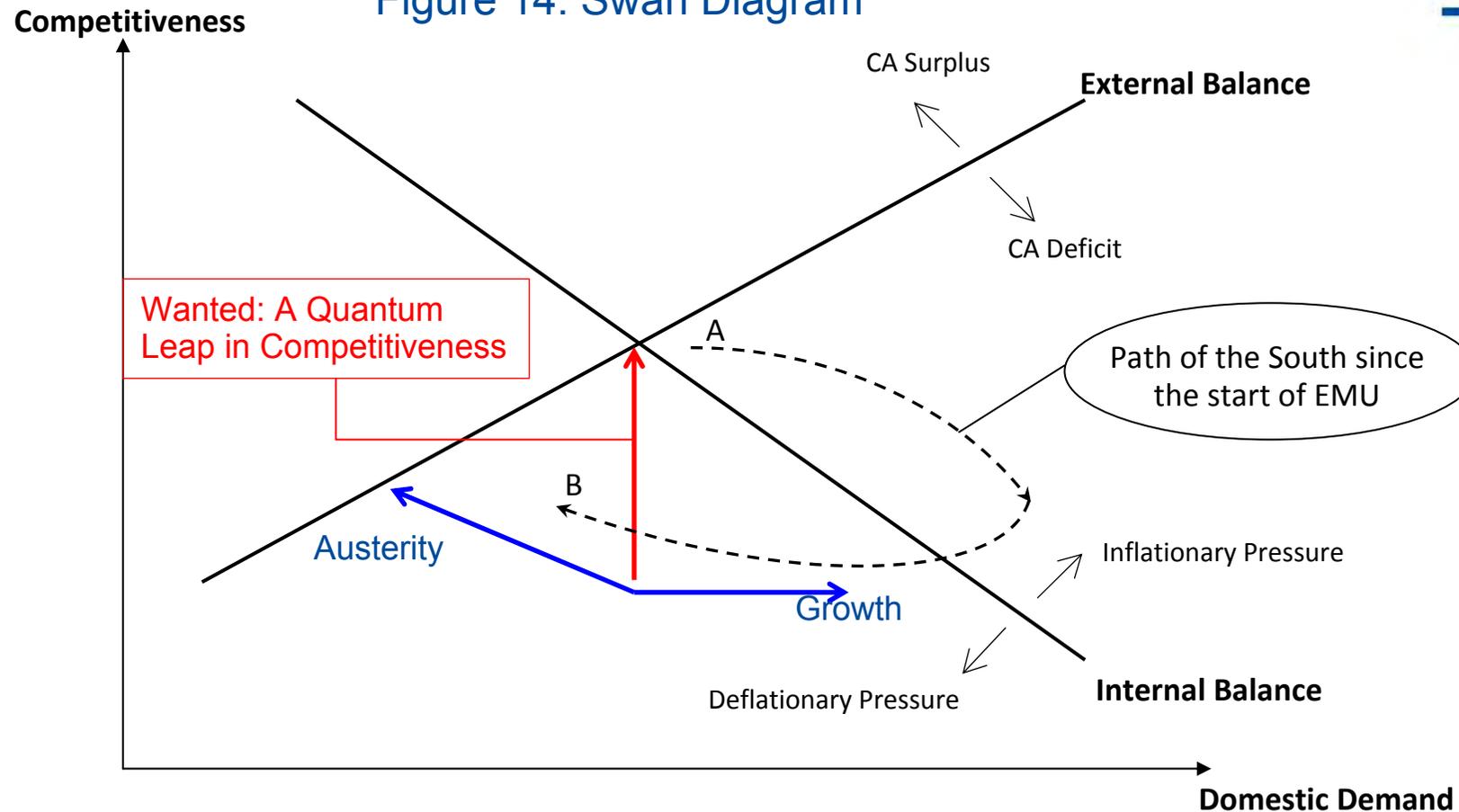
The South in the Competitiveness Trap

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Figure 14: Swan Diagram



Implication: The „Austerity vs. Growth“ dichotomy offers no way out

Conclusions



1. The current strategy of sustained austerity to resolve the public sector crisis in the highly indebted eurozone countries is a failure. In particular it ignores the multiple tensions that exist between external equilibrium, internal equilibrium, competitiveness, and debt-servicing capacity.
2. A case in point is public-sector deficits which do not shrink as expected because austerity compresses the revenue base (IMF 2012).
3. Current-account imbalances do shrink. But this is mostly due to depressed economic activity in deficit countries.
4. So far competitiveness has improved only marginally because of resistance to downward price adjustment (exception: Ireland) and because “structural reforms” take a long time to be enacted and to show results.
5. The current strategy essentially plays for time, but increasingly strains the patience of citizens both in the South and in the North. If patience runs out in either region, something will have to give, and that could well be eurozone membership of some of the Southern countries.

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